

12 wherein a plurality of said pixel electrode and said common
13 electrode on said electrode-formed substrate each are in unit
14 pixel, and disposed parallel at predetermined intervals and
15 alternately in a same layer or through insulating film, electric
16 field substantially parallel to said electrode-formed substrate
17 and said color-filter-formed substrate is applied to said
18 liquid-crystal layer by applying an alternating-current voltage
19 between said pixel electrode and said common electrode, said pixel
20 electrode and said common electrode are connected to an external
21 control means by which the applied electric field is arbitrarily
22 controlled according to a display pattern, two orientation films
23 print-coated are formed directly or through insulating film on
24 said electrode-formed substrate and said color-filter-formed
25 substrate, respectively, the two orientation films are disposed

1 3. An active matrix liquid-crystal display device,
2 comprising:

6 a color-filter-formed substrate where no electrode is formed
7 and a color filter layer of red (R), green (G) and blue (B) to
8 color light transmitted therethrough is formed; and

12 wherein a plurality of said pixel electrode and said common
13 electrode on said electrode-formed substrate each are in unit
14 pixel, and disposed parallel at predetermined intervals and
15 alternately in a same layer or through insulating film, electric
16 field substantially parallel to said electrode-formed substrate
17 and said color-filter-formed substrate is applied to said
18 liquid-crystal layer by applying an alternating-current voltage

12 wherein a plurality of said pixel electrode and said common

13 electrode on said electrode-formed substrate each are in unit
14 pixel, and disposed parallel at predetermined intervals and
15 alternately in a same layer or through insulating film, electric
16 field substantially parallel to said electrode-formed substrate
17 and said color-filter-formed substrate is applied to said
18 liquid-crystal layer by applying an alternating-current voltage
19 between said pixel electrode and said common electrode, said pixel
20 electrode and said common electrode are connected to an external
21 control means by which the applied electric field is arbitrarily
22 controlled according to a display pattern, two orientation films
23 print-coated are formed directly or through insulating film on
24 said electrode-formed substrate and said color-filter-formed
25 substrate, respectively, the two orientation films are disposed
26 opposite each other and with a predetermined clearance by a panel
27 spacer, nematic liquid crystal is filled into said clearance while
28 being anti-parallel oriented, and a circuit to send electrical
29 signal to each of the color layers (R, G, B) in the color filter
30 is provided to make a difference in the central value of drain
31 signal voltages for the respective color layers.

Sub
ac
1 5. An active matrix liquid-crystal display device, according
2 to claim 4, wherein:

3 the difference in the central value of drain signal voltages
4 is set to satisfy the relation:

5
$$V_{\text{BLUE}} \text{ (V)} = V_{\text{RED}} \text{ (V)} - 0.2 \text{ (V)} = V_{\text{GREEN}} - 0.1 \text{ (V)}$$

6 where V_{BLUE} , V_{RED} and V_{GREEN} are the central values of drain voltage
7 of blue, red and green, respectively.

6. An active matrix liquid-crystal display device, according to claim 4, wherein:

the resistivity Y ($\Omega \cdot \text{cm}$) of the color layers (R, G, B), and the difference X (V) between the central value of drain voltage at the red color layer and the central value of drain voltage at each of the color layers (R, G, B), is set to satisfy the relation:

$$Y = C \cdot X + D$$

where C and D are in the range of:

$$3 \times 10^{11} < C < 7 \times 10^{11}$$

$$0.5 \times 10^{11} < D < 1.0 \times 10^{11}$$

, and preferably,

$$C = 5 \times 10^{11}$$

$$D = 0.8 \times 10^{11}.$$

7. An active matrix liquid-crystal display device, comprising:

an electrode-formed substrate which is composed of a drain signal electrode, a gate signal electrode, a pixel electrode and a common electrode to compose a pixel unit, and an active element;

a color-filter-formed substrate where no electrode is formed and a color filter layer of red (R), green (G) and blue (B) to color light transmitted therethrough is formed; and

a liquid-crystal layer sandwiched between said electrode-formed substrate and said color-filter-formed substrate;

wherein a plurality of said pixel electrode and said common

09201903.113099

electrode-formed substrate
parallel at predetermined
layer or through insulati
parallel to said electrode
er-formed substrate is
by applying an alternating
ctrode and said common elec
common electrode are connect
h the applied electric fie
to a display pattern, two c
ned directly or through in
d substrate and said col
ly, the two orientation f
nd with a predetermined cle
d crystal is filled into sai
oriented, and a circuit to
color layers (R, G, B) in
difference in the amplitud
pective color layers.